Appln No. 10/537159

Amdt. Dated: January 07, 2009

Response to Office Action of October 17, 2008

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Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the

application:

Listing of Claims:

1. (Original) Machine-readable coded data disposed on or in a substrate in accordance

with a layout, the layout having six-fold rotational symmetry, the layout including six

identical sub-layouts rotated 1/6 revolutions apart about a center of rotational symmetry of

the layout, the coded data disposed in accordance with each sub-layout including rotation-

indicating data that distinguishes the rotation of that sub-layout from the rotation of at least

one other sub-layout within the layout.

2. (Original) Machine-readable coded data according to claim 1, wherein the rotation-

indicating data distinguishes the rotation of the sub-layout from the rotation of each of

the other sub-layouts within the layout.

3. (Original) Machine-readable coded data according to claim 1 or claim 2, wherein

the coded data is redundantly encoded and the coded data of each sub-layout includes at

least one coded data codeword.

4. (Original) Machine-readable coded data according to claim 3, wherein the coded

data is redundantly encoded using a Reed-Solomon encoding.

5. (Original) Machine-readable coded data according to claim 1, wherein each sub-

layout defines a plurality of positions of data elements, the sub-layouts being interleaved

with each other without any two data elements overlapping each other.

6. (Original) Machine-readable coded data according to claim 1, wherein the layout is

repeated on the substrate.

7. (Original) Machine-readable coded data according to claim 6, wherein the layouts

are packed together on the substrate.

- 8. (Original) Machine-readable coded data according to claim 1, wherein the layout is hexagonal.
- 109. (Currently Amended) Machine-readable coded data according to claim 1, including one or more target features for enabling preliminary location and rotation of the layout to be determined by a machine used to read the coded data.
- 1110. (Currently Amended) Machine-readable coded data according to claim 109, wherein the target features are configured to enable perspective correction of the coded data of the, or each, layout upon reading by the machine.
- <u>1211</u>. (Currently Amended) Machine-readable coded data according to claim <u>1110</u>, including at least four of the target features.
- 1312. (Currently Amended) Machine-readable coded data according to any one of claims 9 to 11claim 8, including a plurality of the layouts, wherein at least some of the target features are shared by at least two of the layouts.
- 44<u>13</u>. (Currently Amended) Machine-readable coded data according to claim 1, the coded data being printed onto the substrate.
- 1514. (Currently Amended) Machine-readable coded data according to claim 1413, wherein the coded data is printed onto the surface in ink that is of low-visibility or is invisible to an average unaided human eye.
- 1615. (Currently Amended) Machine-readable coded data according to claim 1514, wherein the ink is an infrared ink that is substantially invisible to an average unaided human eye.
- 4716. (Currently Amended) Machine-readable coded data according to claim 1, wherein the coded data of each layout or sub-layout defines user data.
- 1817. (Currently Amended) Machine-readable coded data according to claim 1716, wherein the user data includes location data indicative of a position of the layout pattern

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relative to a region of the surface.

1918. (Currently Amended) Machine-readable coded data according to claim 1716,

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wherein the user data includes identification data identifying a region of the surface within

which the layout is disposed.

2019. (Currently Amended) Machine-readable coded data according to any one of claims

17 to 19 claim 16, wherein the user data includes function data identifying a function to be

performed upon reading of the layout pattern or sub-pattern by the machine.

2120. (Currently Amended) Machine-readable coded data according to claim 1, wherein

at least some of the coded data is not disposed in the sub-layouts.

2221. (Currently Amended) A surface bearing machine-readable coded data in

accordance with according to any one of the preceding claims claim 1.

2322. (Currently Amended) A surface according to claim 2021, the surface being flat or

curved.

2423. (Currently Amended) A surface according to claim 2221, further including visible

markings.

2524. (Currently Amended) A surface according to claim 2423, wherein the visible

markings include any one or more of the following:

text;

graphics;

images;

forms;

fields; and

buttons.

2625. (Currently Amended) A surface according to claim 2423, wherein the visible

markings are disposed adjacent to, or coincident with, at least some of the coded data.

- 2726. (Currently Amended) A surface according to claim 2221, the surface being defined by a substrate.
- 2827. (Currently Amended) A surface according to claim 2726, wherein the substrate is paper, card or another laminar medium.
- 2928. (Currently Amended) A surface according to claim 2221, configured for use as an interface surface for enabling user interaction with a computer.
- 3029. (Currently Amended) A method of generating an interface surface, including the steps of:

receiving, in a printer, user data;

generating machine-readable coded data incorporating the user data, in accordance with claim 4716; and

printing the coded data onto a substrate.

- 3130. (Currently Amended) A method according to claim 3029, further including the step of printing visible markings on the substrate.
- 3231. (Currently Amended) A method according to claim 3130, wherein the coded data and visible markings are printed onto the substrate substantially simultaneously.
- 3332. (Currently Amended) A method of using a sensing device to read machine-readable coded data according to any one of claims 1 to 21claim 1, the method including the steps of:
- (a) reading, using the sensing device, the coded data of the layout;
- (b) decoding the coded data of at least one of the sub-layouts of the layout, thereby determining at least the rotation-indicating data of that sub-layout; and
- (c) using the rotation-indicating data to determine a rotational position of at least one of the remaining sub-layouts to be decoded.
- 34<u>33</u>. (Currently Amended) A method according to claim <u>3332</u>, wherein step (a) includes the substeps of:

imaging the substrate to generate an image thereof;

processing the image to locate one or more target features of the coded data; and

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on the basis of the located target features, determining a position of at least one of the sub-layouts.